SUPERFUND FACT SHEET — EPA Region VI

INDUSTRIAL TRANSFORMER SITE

Houston, Texas

PROPOSED REMEDIAL PLAN — August 1988

THIS FACT SHEET WILL TELL YOU ABOUT . . .

- The Industrial Transformer Superfund site
- Groundwater contamination at the site
- Alternatives to remedy groundwater contamination
- Proposed plan of action
- Public meeting and public comment period
- How to obtain more information

SITE BACKGROUND

During the 1970s, the Industrial Transformer Company operated an electrical transformer cleaning and recycling facility on a 3/4-acre site located within a mile of the Houston Astrodome/Astroworld complex on South Loop 610 West (Figure 1). The owner, Mr. Sol Lynn, later leased the property to Sila-King, a chemical supply company. Inspection and testing of this site by city, state, and federal agencies showed that contamination remained from the transformer cleaning activities. In 1984, the Industrial Transformer site was proposed to the National Priorities List of hazardous waste sites eligible for remedial action in the Superfund program.

In January 1987, the U.S. Environmental Protection Agency (EPA), through a cooperative agreement with the Texas Water Commission (TWC), began an extensive study of the site, called a Remedial Investigation and Feasibility Study (RI/FS), to identify site problems and evaluate possible cleanup methods. The RI/FS was divided into two separate studies to evaluate surface soil contamination and groundwater contamination.

The first study, which investigated surface soil contaminated with polychlorinated biphenyls (PCBs), was completed in late 1987. EPA evaluated several remedial alternatives and proposed chemical dechlorination to remedy surface soil contamination. After

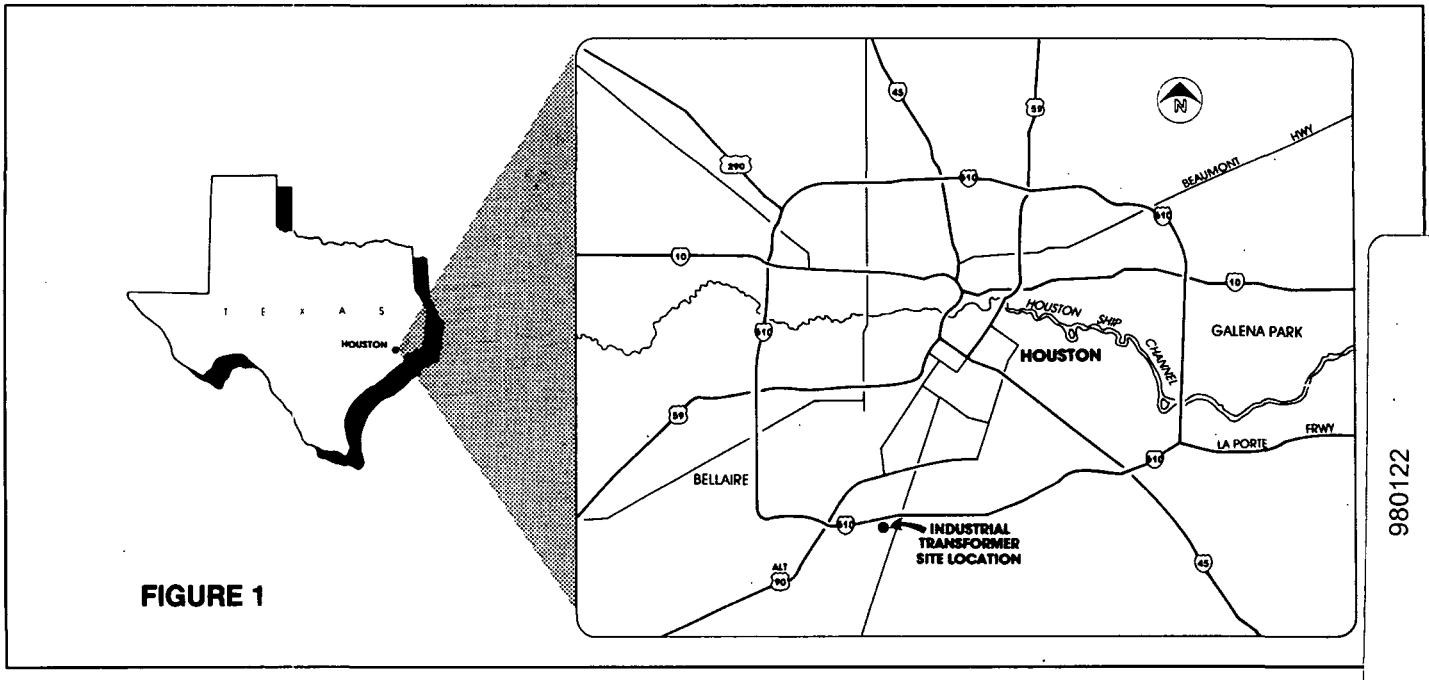

FIGURE 1

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reviewing public comment about the proposed remedy, EPA in March 1988 selected chemical dechlorination as the most appropriate remedy for contaminated soils at the site. The second study, which addresses contamination of groundwater, has been completed and is the subject of this fact sheet.

SITE CONTAMINATION

The second phase of the Remedial Investigation involved analyzing samples of groundwater and subsurface soil taken from monitoring wells installed at the site. The results of this study indicate that the shallow (30 feet deep) and intermediate (100 feet deep) groundwater zones are contaminated. The primary contaminant of concern is trichloroethene (TCE), a volatile organic compound that EPA has classified as a potential carcinogen. Surveys conducted as part of the study indicate that these zones are not currently used as groundwater sources. The primary means of exposure to TCE contamination is by ingesting groundwater or inhaling TCE during the use of groundwater, and the chemical is present in concentrations great enough to pose potential long-term public health risks.

ALTERNATIVES FOR REMEDIATION OF THE GROUNDWATER

EPA has conducted in-depth evaluations of five alternatives for remediating the site. These evaluations are based on criteria set forth in the Comprehensive Environmental Response, Compensation and Liability Act (the Superfund law) and the Superfund Amendments and Reauthorization Act of 1986. These criteria require EPA to compare alternatives based on technical feasibility, effects on human health and the environment, and cost. In addition, proposed alternatives must meet all applicable or relevant and appropriate State and Federal regulations. Details of the remedy selection criteria are contained in the Feasibility Study. The following is an outline of the alternatives EPA considered.

Alternative 1: No Action

- No treatment of contaminated groundwater
- Annual environmental monitoring would be conducted to determine how far the contaminated groundwater had migrated
- Estimated cost: $411,000

The No Action alternative would not halt the migration of contaminated groundwater, and could cause people using the contaminated groundwater to be exposed to TCE. The Superfund law requires that this alternative be considered to serve as a baseline for comparing other remedies.

Alternative 2: Collection, Offsite Deep Well Injection

- Contaminated groundwater would be pumped from recovery wells to an onsite storage tank
- Water would be shipped in a specially equipped vacuum tank truck for disposal in a deep well injection facility that meets EPA requirements
- Groundwater would be injected approximately 7,000 to 8,000 feet underground
- Estimated cost: $4.8 million

Although this alternative would not destroy TCE, it would provide for the isolation and ongoing monitoring of the contaminated groundwater.

Alternative 3: Collection, Onsite Carbon Adsorption, Discharge

- Construct recovery wells to collect contaminated groundwater

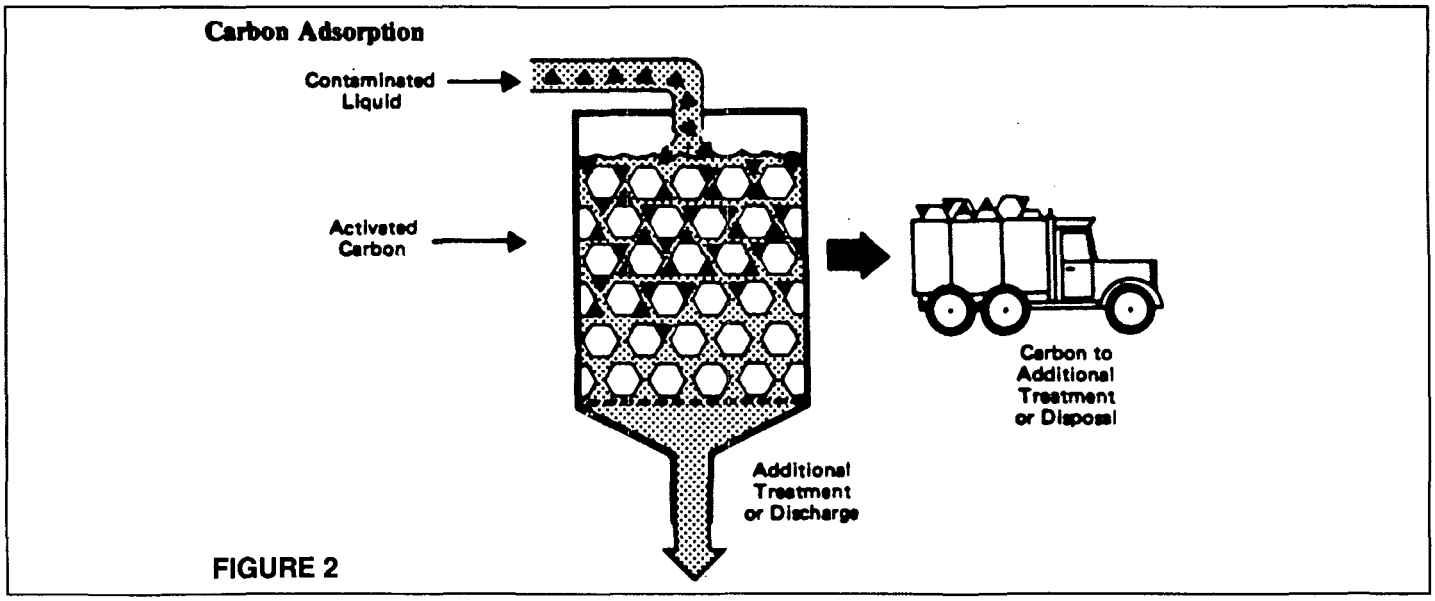

FIGURE 2

- Remove contaminants from groundwater using a carbon adsorption process
- Discharge treated water to local water treatment facility or pump back into the ground
- Estimated cost: $1.8 million

This treatment system removes contaminants by forcing the groundwater through tanks containing carbon specially treated to attract the contaminants (Figure 2). Alternative 3 would protect public health at relatively low cost. However, the effectiveness of the carbon would need to be monitored frequently with replacement on a regular basis.

Alternative 4: Collection, Onsite Airstripping, Discharge

- Pump contaminated groundwater using recovery wells
- Remove contaminants using an airstripping process
- Discharge treated groundwater to municipal water treatment facility or return groundwater to the aquifer
- Estimated cost: $2.2 million

Airstripping works by pushing air through the contaminated water, forcing the chemical contaminants to mix with the air and evaporate (Figure 3). This alternative is technically feasible and would remove contaminants from groundwater, preventing future contamination. Air monitoring would be required throughout the airstripping process.

Alternative 5: Collection, Onsite Catalytic Dehydrochlorination, Discharge

- Pump contaminated groundwater to a storage tank
- Chemically treat the water in a reaction tank to reduce hazardous levels of TCE contamination
- Discharge treated water to municipal water system or pump back into the ground
- Estimated cost: $6.3 million

This alternative involves using two chemicals, potassium hydroxide and tetraethylene glycol, to change the chemical composition of the TCE in the groundwater. The resulting water would be less hazardous and could be safely discharged. Public health and the environment would be protected because TCE would be destroyed.

PROPOSED PLAN OF ACTION

EPA has carefully evaluated all aspects of these alternatives and proposes a plan for remedial action that will stop the migration of the contaminated groundwater plumes. EPA recommends implementation of Alternative 4, which consists of extraction and treatment of the contaminated groundwater using an onsite airstripping facility, and discharging the treated groundwater to the groundwater table or into the municipal water treatment system.

The selection of this alternative is based on the following rationale:

- The collection portion of the remedy should stop any further movement of the contaminated groundwater.
- The treatment portion should restore the contaminated groundwater to drinking water quality. The airstripping method will accomplish this and will require less operation and maintenance than other alternatives to achieve the same water quality.

OPPORTUNITIES FOR PUBLIC INVOLVEMENT

Community involvement is an essential element of the Superfund program. A final decision on the remedial alternative cannot be made until interested parties have had an opportunity to comment on these alternatives. Copies of the Remedial Investigation and Feasibility Study documents and other information relating to the Industrial Transformer site are available for review at the EPA office in Dallas as well as:

City of South Houston City Hall
South Houston, Texas

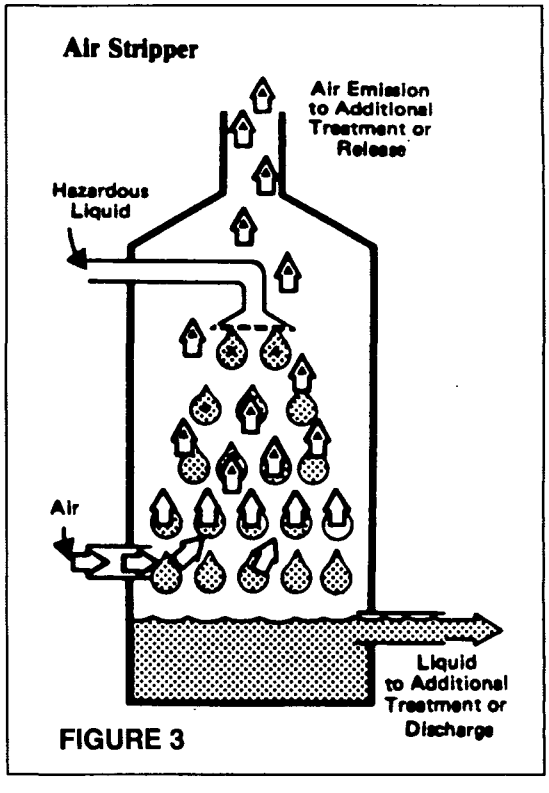

FIGURE 3

Houston Central Library
500 McKinney
Houston, Texas 77002

University of Houston Library
Documents Center
4800 Calhoun
Houston, Texas 77023

Rice University
Fondren Library
Documents Department
6100 Main
Houston, Texas 77005

Houston-Galveston Area Council
3555 Timmons, Suite 500
Houston, Texas 77227-9972

Texas Water Commission
1700 North Congress
Austin, Texas 78711

Texas Water Commission
District 7 Field Office
4301 Center Street
Deer Park, Texas 77536

Public Comment Period

EPA will accept written comments on the proposed plan to remedy groundwater contamination at the Industrial Transformer site from August 10 until September 9, 1988. Please mail your comments to:

Carl Edlund, Chief
Superfund Program Branch (6H-S)
U.S. EPA
1445 Ross Avenue
Dallas, Texas 75202-2733

Public Meeting

EPA will explain results of the Feasibility Study, answer questions, and accept both written and oral comments at a public meeting to be held:

Thursday, August 25, 1988
7 p.m.
Astro Village Hotel
2350 South Loop 610 West
Houston, Texas

ADDITIONAL INFORMATION

If you have questions or would like more information about the Industrial Transformer site, please contact:

Betty Williamson
Community Relations Coordinator
(214) 655-6705

Sherry Fuerst
Remedial Project Manager
(214) 655-6715

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Dallas, Texas 75203-2733